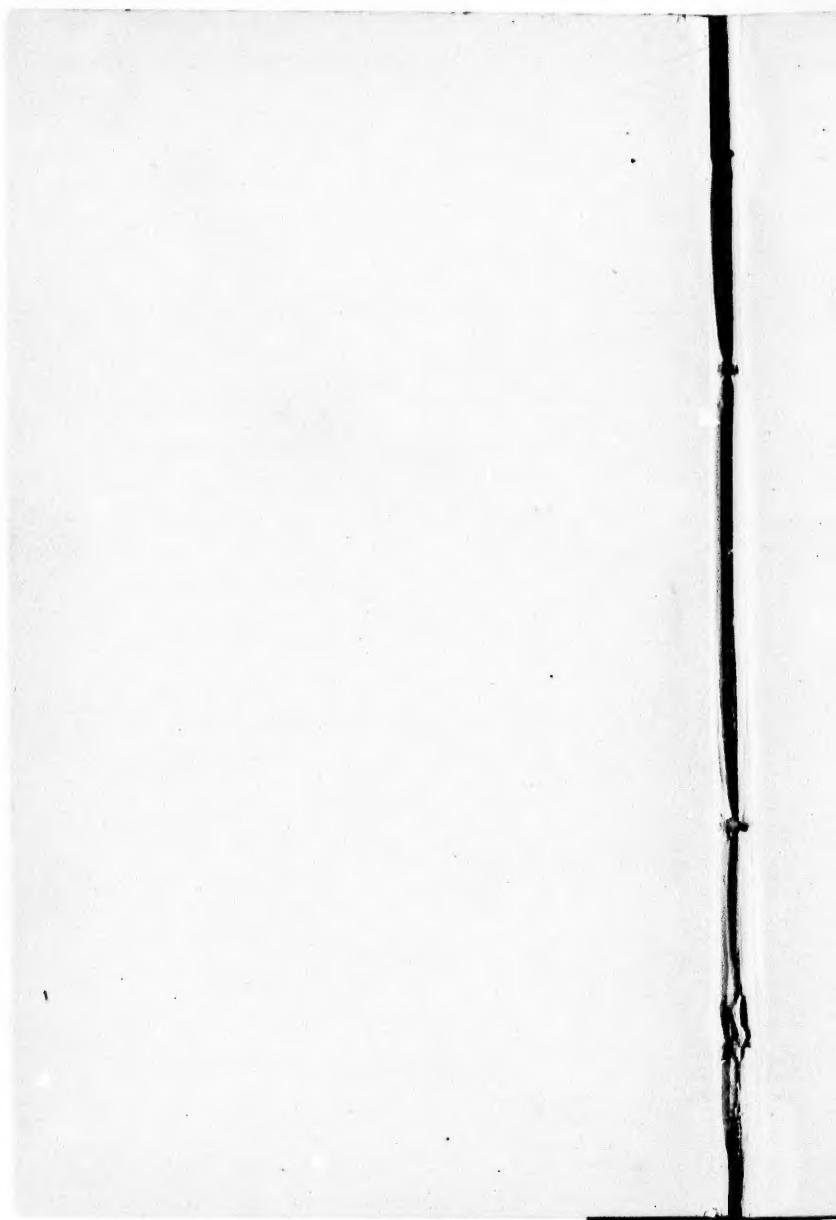




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# HARMONY

ON THE

## INDUCTIVE METHOD.

BY HUGH A<sup>n</sup> CLARKE,  
*revised*

Professor of Music, University of Pennsylvania.



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## INTRODUCTION.

This book makes no claim to be a new theory of harmony; but merely a new system of teaching harmony, by what is universally recognized as the best method of teaching, viz., the inductive.

The theory of harmony is the province of the acoustician, not of the musician. It is often asserted that music has gained largely by the labors of the acousticians; but this is not so evident, when we remember that all the best music was written before the science of acoustics was born. The instinct of genius discovered, after many trials and mistakes, what combinations and successions of sound were agreeable and expressive, without asking or caring why. And the science of sound has made but little advance in explaining this "why;" and has not added *one* chord or progression that was not known to Bach.

Science can analyze sounds, but not music. It can say to what the various qualities of sound are to be attributed; but can give no explanation of their effect on the emotions. Indeed, the best authorities on acoustics, viz., Helmholtz, Pole, Parry, are agreed that it is useless for the musician to theorize as to the origin of chords. It is enough for him to know what combinations and progressions

practice and experience have proved good. No better proof is required of the uselessness of this theorizing about the origin of chords, than the diversity of views with regard to the origin of the minor chord; owing, to the fact, that its third *cannot* be an overtone of its fundamental.

The object of the writer on harmony and composition ought to be, to reduce, to some system, the mass of facts (for want of a better name) of which our modern music is the outgrowth. These facts are:

- 1st. A tempered scale.
- 2d (and resulting from the first). A number of keys related in many ways.
- 3d. The possible combinations of sounds, called chords.
- 4th. The seeming rules that govern the successions of these combined sounds. Rules, be it remembered, that are not the expression of some natural fact; but are merely the result of a consensus of the best taste in the art.

These four facts make up the substance of *harmony*, and form the groundwork of composition, which deals chiefly with melody and form.

Many departures will be found in this work from the usual methods of teaching, notably the following:

- 1st. With regard to the formation of the minor scale.

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- 2d. The referring of all dissonant chords to two roots.
- 3d. The discarding of the time-honored figured bass.
- 4th. The formulating of simple rules for modulation.

My reason for the first departure is, that the relationship and signature of the minor scale is thereby fixed at once in the memory of the pupil.

For the second.—That it reduces the confusing multiplicity of rules for the use of chords with the seventh, to four that have no exceptions.

For the third.—That it is a hindrance, rather than a help, to the pupil. The author has had numbers of pupils who could write or play a figured bass; but who were quite in the dark as to the reasons why they used such successions of chords. Many of these pupils had spent one or two years studying with good masters. And have themselves acknowledged that they have learned more in a month, on the plan pursued in this work, than in all their previous studies. It has always been to the author a mystery, why figured basses were used for teaching harmony. They were, originally, a sort of musical shorthand; and, in these days of cheap music, are only a survival of—not by any means—the fittest. The author is often met with the argument that “all the great musicians learned this way.” Well, the

pity is, they had not a better and easier way. It is no argument, that because a man is a great poet, therefore the system pursued in teaching him his letters was the best possible.

With regard to the fourth departure from usual practice.—The author feels a pardonable pride in having reduced the art of modulation to four simple, easily understood and comprehensive rules. Hitherto the plan followed in teaching modulation, has been to give the pupil various examples, which were to be transposed to all the keys, until they were fixed—parrot fashion—in his memory. When he wished to make a modulation, he must remember one of his “patterns.” By mastering the rules here given, the pupil can make his own modulations in endless variety, and make them understandingly.

It is well to bear in mind that music is an art, not a science; although the study of harmony is often wrongly called the science of music. The rules of musical construction are not the result of scientific investigation; but are deductions from the practice of those distinguished by their artistic eminence. Many musicians think these rules are the expressions of some natural law. Many, not musicians, think they are the arbitrary and often unreasonable dicta of musicians. But both are wrong. Good taste is the only arbiter in matters of art. And since the standards of taste vary with every period of the world's history, it is not possible

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to give to any of its decisions the stamp of permanency, and say: This is a rule that can never be broken.

In conclusion, the author would express his thanks to his numerous pupils, both present and past, for the warm interest they have taken in the progress of this work, and for their kind wishes and inquiries from all parts of the country.

H. A. CLARKE,

*Professor of Music at the University of Pennsylvania.*

PHILADELPHIA, November 15, 1880.

## PRELIMINARY DEFINITIONS.

1.—A degree means from one letter to the next, whether a whole or half tone.

2.—Chords and intervals are always counted up from the lowest letter. In counting the number of letters in an interval, both letters are included, thus: C—D, is a second, two letters being included; C—F, is a fourth, four letters being included, and so on.

3.—A chromatic change retains the letter, but alters the pitch, thus: C—C $\sharp$ , is chromatic. A diatonic change changes both the letter and the pitch, thus: C—D, or E—F, are diatonic, although one is a whole tone, the other a half tone. An enharmonic change retains the pitch, but changes the letter, thus: C $\sharp$ —D $\flat$ , F—E $\sharp$ , G—F $\times$ , etc.

4.—The word *base* is used to indicate the lowest note of a chord, without regard to its pitch. The word *bass* (from the Italian *basso*) means a low or deep sound.

5.—A diatonic scale is one that includes all the seven letters, without omission or repetition. (There are various kinds of diatonic scales, viz.: The Greek, the Gregorian and the modern. They differ in the arrangement of the tones and semitones. The modern resemble two of the ancient scales, in their arrangement of tones and semitones; but differ, in being tempered (i. e., a little out of tune). For explanation of tempered scales see Helmholtz, or Stainer's, or Groves' Dictionary).

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## CHAPTER I.

1. An Interval is the difference in pitch between two sounds.

2. The *name* of an interval depends upon the number of letters it includes; the *kind* of interval upon the number of semitones it includes.

3. There are five *kinds* of intervals, viz.: Major, minor, augmented, diminished and perfect.

The following table contains all the *kinds* of seconds, thirds and fourths.

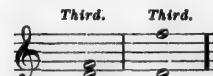
Seconds.			Thirds.			Fourths.		
Semitones	1	2	3	2	3	4	5	4
Min.	Maj.	Aug.		Dim.	Min.	Maj.	Aug.	Dim.

4. By inverting these intervals we get all the kinds of sevenths, sixths and fifths.

Sevenths.			Sixths.			Fifths.		
Semitones	11	10	9	10	9	8	7	8
Maj.	Min.	Dim.	Aug.	Maj.	Min.	Dim.	Aug.	Per.

5. On examination it will be found that the inversion of a second produces a seventh; of a third, a sixth; of a fourth, a fifth. Also, that an interval and its inversion together make an octave—and, as

the octave contains twelve semitones, an interval and its inversion must make twelve semitones. Thus the major second contains two semitones, consequently its inversion must contain ten, etc. We also find that the inversion of a major interval produces a minor, and the reverse; of an augmented, a diminished; of a perfect, a perfect. Removing one of the sounds of an interval an octave does not change its name, except in the cases to be pointed out hereafter, thus:



Both these intervals are thirds, or the second example is a third plus an octave.

6. Intervals are also divided into consonant and dissonant. The consonant intervals are: The major and minor thirds, and their inversions, the minor and major sixths. The perfect fourth and its inversion, the perfect fifth; and the octave. A consonant interval is one that gives repose to the ear; a dissonant interval does not; but it must be resolved, a term that will be explained in its proper place.

Before going any further the student must become thoroughly familiar with all these intervals. This is best done by writing them out, commencing with every ♭, ♯ and ♯ in the scale.

7. A tetrachord is a series of four sounds, arranged as follows: From first to second, and second

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to third, are major seconds; from third to fourth, a minor second, thus: G, A, B $\frac{1}{2}$ C.

8. A major scale consists of two tetrachords separated by a major second, thus:

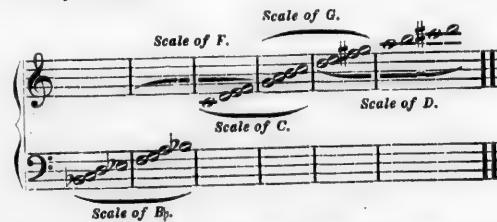
### Tetrachord.



### Separating whole tone

9. Every tetrachord may be found in two scales, viz.: the scales of its first and of its last note. Thus C, D, E & F belongs to the scales of C and F; F, G, A, B, to the scales of F and B.

10. Scales having tetrachords in common are called related scales. Thus the scales of F and G are related to C, because they each have a tetrachord that also belongs to C; therefore every major scale has *two major relations*, because C is the model for all major scales.



Write tetrachords, commencing with every  $\text{E}$ ,  $\text{F}$  and  $\text{G}$ , and mark the scales to which they belong. No letter must be repeated or omitted in any scale.

## CHAPTER II.

1. A common chord (or perfect chord) consists of three sounds. The lowest is the *root*; the remaining sounds are the third and fifth over that root. The third may be major or minor; the fifth *must* be perfect. A chord with a major third is called a major chord; with a minor third, a minor chord. Since there are only seven letters used in music, it follows that seven groups will make all the common chords that are possible, thus:

Fifths.— E, F, G, A, B, C, D.

Thirds.— C, D, E, F, G, A, B.

Roots.— A, B, C, D, E, F, G.

These groups may be modified by #, b, etc. For example, the first group, A, C, E, may be



etc.; but the *letters* never change.

2. Six common chords may be written in every scale. Three will be major; three, minor. The seventh note of the scale, called the *leading note*, cannot be used as the root of a chord, because the fifth over it is diminished.

## Example:



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The major chords are on the first, fourth and fifth notes of the scale. These notes are called the tonic, subdominant and dominant, and the chords written on them are called by the same names.

The minor chords are on the second, third and sixth notes of the scale. These notes are called the supertonic, mediant and submediant, and the chords written on them are called by the same names.

3. It is easier to write successions of chords in four parts (or for four voices); but as the chord consists of only three sounds, it is necessary to double one of the members of the chord to make a fourth part.

We will commence by doubling the root, thus:



C is the root; it is at the base and doubled by the highest voice or part.

4. A chord with its root at the base and doubled in one of the upper parts may be written in three positions, called: Octave, tierce and quint.

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In all its positions and doubling this chord is still the chord C, E, G.

This doubling might be carried to any extent; but it cannot alter the name of the chord.

5. In writing a succession of common chords with their roots at the base, the following rule must be observed: Never write two chords in succession in the same position. If it be desired to make the succession as smooth as possible, retain all notes common to two or more chords in the same part (voice), thus:



The following examples are to be written according to these rules, viz.:

- 1st. The base note is the root.
- 2d. The root only is to be doubled.
- 3d. Two chords in the same position must never be written in succession.
- 4th. Make the chords as connected as possible.



6. The knowledge gained must now be applied to the harmonizing of a melody. The following remarks will point out the way to accomplish this:

(1) Every note in the melody may be the root, third or fifth, of some one of the chords in the scale. If it be treated as a root, the chord will be in the octave position; if as a third, the chord will be in the tierce position; if as a fifth, the chord will be in the quint position.

Example:



N. B.—Two chords may be written in the 8 position in succession when the extreme parts move opposite ways.

In this example, C is treated as the root of the chord of C, consequently it is in the octave position; D as the fifth in the chord of G, consequently it is in the quint position; C as the

third in the chord of A, consequently it is in the tierce position, etc.

- (2) Begin and end with the tonic chord.
- (3) After deciding on the chord any given note is to have, *write first* of all the *root* in the bass.

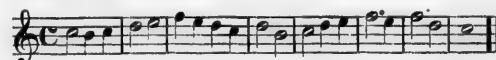
Harmonize the following phrase of melody in as many ways as possible:



Three chords are possible for the first note, two for the second, three for the fourth.

The following melodies must be harmonized according to these rules; they should all be transposed to all the keys and harmonized over and over.

NOTE.—The bass must never proceed by long skips, it is best not to exceed a sixth.



The bass should never ascend or descend two fourths or fifths in succession.



It cannot be too often repeated that *common chords only*, with the roots at the base and not doubled, are to be used in these exercises.

Examine each chord as you write it, to see if it conforms to these rules. This is the only way to succeed, a the absence of a teacher.

7 The progression of common chords is perfectly free, that is, any two common chords may be written in succession, but some successions do not sound as well as others. They are not to be understood as forbidden, because the effect of a progression depends altogether on the design of the composer and the context.

The following rules might be given for such successions:

Two major chords whose roots are a whole tone apart do not sound well, except in the following positions: At No. 1—two and three are sometimes used; four is hardly tolerable; five is intolerable.

A musical score for 'The Star-Spangled Banner' in G major. The top staff is treble clef with a key signature of one sharp. The bottom staff is bass clef. Measures 1-5 are shown, with measure 1 containing a single eighth note, measure 2 containing a half note, measure 3 containing a half note, measure 4 containing a half note, and measure 5 containing a half note. Measures 2, 3, 4, and 5 are preceded by a double bar line with repeat dots.

Two minor chords whose roots are a whole or half tone apart are bad in any position, except in the passage at No. 2.

A minor chord followed by a major whose root is a minor third higher, is bad unless in the following positions:



A major chord, followed by a minor or the reverse, whose roots are a half tone apart, except in the following positions:



Nos. 1 and 2 are best.

8. It is not always necessary to use the root of a chord for a base note. The third or fifth may be so used. When the third is used for a base note the chord is said to be in its *first inversion*; when the fifth is used for a base note the chord is said to be in its *second inversion*. It is important to remember that the *name* of the chord is unchanged, no matter what the inversion of the letters composing it may be, thus:



In this example the *letters* are C, E, G; it is therefore the chord of C.

To find the root of a chord it is only necessary to arrange the letters composing it, so as to read: 1, 3, 5. The lowest will be the root.

Example:



No. 1 is the chord of A, 1st inversion, the letters read A, C, E,  
 " 2 " " G, 2d " with root doubled, G, B, D,  
 " 3 " " C, 1st " with fifth doubled, C, E, G,  
 " 4 " " F, 2d " " " F, A, C,  
 " 5 " " D, 1st " " " D, F, A,  
 " 6 " " E, 1st " with fifth doubled, E, G, B.

The pupil should write all the common chords in all the keys; in all their positions and inversions. Remember that *position* applies to the *highest* note of a chord with its *root* at the base; and *inversion* applies to a chord with any member but the root at the base, and has no regard to what may be at the top of the chord.

9. Hitherto we have doubled the *root* of the chord only; but it is not the only member of the chord that can be doubled, but is the *best* when the root is at the base. But when the first inversion of the chord is used, the fifth is just as good a member to double as the root. (For the present the third must not be doubled).

In the following example, the first inversion of some of the chords will be found—some with root, some with fifth doubled.

N. B.—The doubling of a member of a chord at unison is expressed by writing the note as above. It is as though two of the singers in a quartette had the same note to sing.

No. 1,	Chord of C,	8 <sup>th</sup> position,	Root doubled,	Tonic chord.
" 2,	"	G,	1st inversion,	Dom. "
" 3,	"	C,	3 <sup>rd</sup> position,	Tonic "
" 4,	"	C,	1st inversion,	" "
" 5,	"	F,	8 <sup>th</sup> position,	Subdom. "
" 6,	"	D,	1st inversion,	Sup. tonic "
" 7,	"	G,	3 <sup>rd</sup> position,	Dom. "
" 8,	"	C,	8 <sup>th</sup> "	Tonic "
" 9,	"	F,	1st inversion,	Subdom. "
" 10,	"	G,	1st "	Dom. "
" 11,	"	C,	3 <sup>rd</sup> position,	Tonic "
" 12,	"	C,	1st inversion, Fifth doubled,	" "
" 13,	"	D,	1st "	Root doubled Sup. tonic "
" 14,	"	D,	3 <sup>rd</sup> position,	" "
" 15,	"	G,	5 <sup>th</sup> "	Dom. "
" 16,	"	C,	3 <sup>rd</sup> "	Tonic "

In writing the following exercises, it is optional to make the notes either roots or thirds of chords. Try both and let the ear decide. The following example will point out the way:

This is evidently in the key of C; it must therefore begin and end with the tonic chord.

The second note may be root of the chord of F, or the third of the chord of D. (Try both).

No. 3 cannot be a root, being the leading note; it must therefore be a third in chord of G.

No. 4 may be root of C, or third of A. (Again try both).

No. 5 root of A, or third of F. (Again try both).

No. 6 root of F, or third of D. (Again try both).

No. 7 root of G, or third of E. (See disagreeable progressions, page 17).

10. The following rule must be strictly observed:

Never let two parts or voices *proceed* in octaves or fifths with each other. (Any two parts may be an octave or fifth apart; but not twice in succession).



In the first bar, the bass and tenor are a fifth apart in the first chord, G, and also in the second, D; making two fifths in succession between the same two voices. Also the bass and alto are an octave apart in both chords.

Consecutive fifths and octaves, like this example, only occur when two chords are written in succession in the same position; hence the rule forbidding it.

In the second bar, fifths occur twice in succession between the alto and soprano.

In the third bar, fifths occur twice in succession between the tenor and alto.

(Consecutive or parallel fifths will be treated further on).



Transpose these exercises into all the keys.

11. The next step is to use this first inversion when harmonizing a melody. The following remarks will make it easy:

Every note in the melody may be the root, third or fifth of some chord; but if it be treated as the third of a chord, the first inversion cannot be used, because it is forbidden as yet to double the third. If the note in the melody be treated as a root or a fifth, either the root or the third may be used for a base note.



Nos. 1 and 8 must have the tonic chord, which will be in the octave position.

No. 2 may be treated as root in the chord of D, and may have the root or third at the base; or it may be treated as the

fifth in the chord of G, and may have the root or third at the base.

No. 3 may be root of E, third of C, or fifth of A; if treated as third of C, the root must be at the base; with the other two chords, either root or third may be at the base.

No. 4 may be root of F, or third of D.

No. 5 may be root of D, or fifth of G.

No. 6 same as No. 3.

No. 7 same as Nos. 2 and 5.

(Try all these varieties and observe which sounds best; if several sound equally well, observe the different effects they give).

The pupil should now be able to harmonize the following examples.

It will be well to bear in mind the following remark:

It generally gives a better effect to make the extreme parts, bass and soprano, move in opposite directions; *i. e.*, when the bass descends, let the soprano ascend, and *vice versa*. This is not a rule, but only a remark.

Four musical examples in G major, 2/4 time, featuring soprano and bass parts. The first example is in G major, 2/4 time. The second example is in G major, 3/4 time. The third example is in G major, 2/4 time. The fourth example is in G major, 3/4 time.

NOTE.—These examples, even if well harmonized, sound unsatisfactory; owing to the want of the perfect cadence, treated in the following chapter.

12. We proceed now to the use of the second inversion of the common chord, *i.e.*, with the fifth for a base note. A chord with its fifth at the base, is *always* (with two exceptions which we will ignore for the present) a tonic chord. Therefore, in the key of C, with the chords so far at our disposal, the only chord that can be used in its second inversion, is the chord C, E, G. The following rules must be observed when it is thus used :

1st. It (the second inversion of the tonic) must be preceded by some chord belonging to the scale. (This seems superfluous at present, but its importance will soon be seen.)

2d. It must be followed by its dominant (exceptions will be pointed out in time).



In this example at  $\times$  are second inversions of the tonic chord, the first example is preceded by the subdominant chord, the second by the supertonic. (These are the most agreeable to use before this second inversion, but any other can be used; as was remarked before, it depends on the design of the composer and the context.)

The close of this example is what is termed a full or perfect cadence. It is the way the great majority of compositions end, *viz.* : with second inversion of tonic, followed by dominant with root at the bass, followed by tonic in octave position.

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We found that the best note to double, when the root was at the base, is the root; when the third is at the base, either root or fifth; but when the fifth is at the base, the best note to double is the fifth; next, the root.

Every change in the position or inversion of a chord gives a new effect to the chord. The octave position is grave, massive and full of repose; the tierce is graceful and inclined to melancholy, particularly when used as a final; the quint is bright and eager, always indicating something to come.

With regard to the use of the different members as base note: A chord with root at the base, is like a cone in a state of stable equilibrium; with its third in the base, in a state of neutral equilibrium; with its fifth in the base, in a state of unstable equilibrium.

A careful study of the following example will enable the pupil to write the exercises that are appended.



Where these marks **\*** are, the second inversion of the tonic chord may be used; because No. 1, the F preceding, may be harmonized by the chord of F, or by the first inversion, chord of D; No. 2, the A preceding, by the chord of A, or first inversion of F; No. 3, by the same as No. 2. And in each case the note following may be harmonized by the dominant chord. After 1 and 3 the root of the dominant is at the base; No. 2 the third of the dominant at the base. The remaining notes are to be treated according to the rules already given.

The marks  $\times$  in the first exercise indicate the places where the second inversion of the tonic may be used.

13. We now give an example to illustrate how this second inversion may be used when harmonizing a melody.

After writing the exercises that follow, the pupil should carefully go over again from the beginning, and should transpose all the basses and melodies given into all the major keys and harmonize them. This is absolutely essential to the complete mastery of the subject.

At No. 1 we have a note belonging to the tonic chord, preceded by a note that may belong to chord of D or G; it is followed by a note belonging to the dominant chord. No. 2 belongs to the tonic chord, etc. No. 8 belongs to the tonic, etc.

In short, whenever we find C, E or G followed by G, B or D, the C, E or G may have the second inversion of the tonic, and the G, B or D the dominant chord.

The use of this second inversion of the tonic is the only thing met with so far that is at all difficult, and a little study and perseverance will soon overcome it.



14. The third of a chord may be doubled under the following circumstances :

1st. When the parts or voices doubling it are moving in opposite directions.

2d. When two chords are written in succession in the tierce position.

3. The doubling that results from striking full chords on the piano, organ or orchestra.



No. 1. The E is doubled by the bass and soprano, the bass ascending, the soprano descending; in the second bar the motion is reversed.

No. 2. In the first bar the C is doubled by the soprano and tenor; in the second bar the A is doubled by the same voices; but in this case they proceed in the same direction. This is the only way an exception to the rule about writing two chords in the tierce position in succession can occur. The third is doubled to avoid the consecutive fifths and eightths that would result from doubling the root.

No. 3. The harmony reduced to its simplest form is only the chord of C, tierce; G, quint; D, tierce; A, quint. The doublings in this case are merely for the sake of fuller effect, and the harmony is to be judged as to its correctness by reducing it to its simplest form, viz.:



The same remark applies to the parallel fifths and octaves in this last example.

Two chords in succession in the octave and quint position sometimes occur, when the extreme parts move in opposite directions.



No. 1 is common in terminations.  
No. 2 is an example of consecutive fifths, from the slow movement of Beethoven's "First Symphony."

The second inversion of the dominant chord may be used as follows:



It must be preceded and followed by the tonic chord. It must *never* occur on the *accented* part of the bar. If the tonic before it have the root at the base, it must after it have the third at the base, and *vice versa*.

This example has two notes in the bar, therefore only one accent; if there were four notes in the bar, the third would be an accented note.

A subdominant chord may be used in its second inversion, provided it is preceded and followed by the tonic, with the root at the base.



At \* the second inversion of the subdominant occurs; in each case it is preceded and followed by the tonic, with its root at the base.

## CHAPTER III.

1. The minor scale is formed from the major, by rearranging the notes, commencing with the sixth. It is called the relative minor of the major scale, from which it is formed, and has the same signature.

2. The most important chords in the scale are the tonic, subdominant and dominant. In the major scale these are all major chords. It was found (page 12) that six chords might be written in every scale, three major and three minor. By rearranging the scale in this way, the three minor chords will occupy the position formerly occupied by the three major chords; *i. e.*, the first, fourth and fifth notes of the scale, or tonic, subdominant and dominant.

A is the sixth note in C major. The chord, A, C, E, is the tonic of A minor and the sixth or submediant chord in C.

D, F, A, is the subdominant of A or supertonic of C.

E, G, B, is the dominant of A or mediant of C.

This is the oldest form of the minor scale, and corresponds to the Greek Hypo-Dorian (or, according to Glareanus, *Æolian*); the major scale being the Lydian (or Ionian, according to Glareanus). This form of the minor scale is very little used now, because it does not admit of any harmony but common chords.

3. Two forms of minor scales are used at present, called the melodic and the harmonic. In the melodic the sixth and seventh are raised in ascending. In the harmonic the seventh only is raised, both ascending and descending. This is the only form with which we have to do at present; hence whenever a minor scale is mentioned, until further notice, it is *always understood to have the seventh raised*.



No. 1 is the melodic scale of A minor.

No. 2 is the harmonic scale of A minor.

4. We have found (page 11) that every major scale had two major relations. It follows, since the minor is formed from the major, that the relative minors of these major scales must also be related to the given scale, thus:

C major has for major relatives, F and G.

The relative minor of C is A.

The relative minor of F is D.

The relative minor of G is E.

Consequently we have in every scale a group of six

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used at present, In the melodic ascending. In d, both ascending only form with once whenever a other notice, it is raised.



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F and G.

a group of six

keys, so closely interwoven that they cannot be disunited, and we can pass from any one to any other, without making a permanent change of key; or, in other words, any chord belonging to A minor, F and D minor, G and E minor, can be used in the key of C.

In all of these minor keys the seventh must be raised to make a leading note. Therefore in A minor we will find G $\sharp$ ; in D minor, C $\sharp$ ; in E minor, D $\sharp$ .

Therefore every *raised* note in any given scale will be a *leading* note to some *related* scale. And no note in the scale (with one exception, to be mentioned later) can be raised unless it leads to a related scale.



1. Tonic.
2. Leading note to D minor.
3. Supertonic.
4. Leading note to E minor.
5. Leading note to F major.
6. Leading note to G major.
7. Leading note to A minor.

We see from this example that a chromatic scale may be written in any key without using a sound foreign to its relations, except in one place, viz., the 6th.

5. Four common chords may be written in the minor scale.



The 1st is tonic.

The fifth on the 2d of the scale is diminished.

The fifth on the 3d of the scale is augmented, owing to the raising of the seventh.

The 4th is the subdominant.

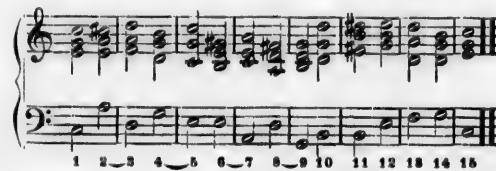
The 5th is the dominant. This chord has become major, owing to the raising of the leading note. This is the only chord that contains this raised note. Therefore we get this extension to the former rule, viz.: Every raised note in any given scale will be a leading note to some related scale, and it must be harmonized by the dominant chord of the scale to which it leads. The raised note or leading note is the third in the dominant chord.

The 6th chord is major.

The fifth on the 7th of the scale is diminished.

(Rules will be given in the proper place for the use of chords with diminished fifths.)

6. It will at once be seen that the easiest notes to harmonize in any given base or melody, must be the notes raised by accidentals; because there is only one way of harmonizing each one.



- No. 1. Tonic.
- No. 2. Dominant of D minor.
- No. 3. Tonic of D minor.
- No. 4. Dominant of C.
- No. 5. Tonic of C, first inversion.
- No. 6. Dominant of A minor.
- No. 7. Tonic of A minor.
- No. 8. Dominant of G major.
- No. 9. Tonic of G major.
- No. 10. Tonic of G major, first inversion.
- No. 11. Dominant of E minor. The F must be sharp, because E minor is the relative of G, and G has an F#.
- No. 12. Tonic of E minor.
- No. 13, 14 and 15. Chords in the scale.

It will be observed that every one of these dominant chords is followed by its tonic. This is called the first progression (or resolution) of the dominant chord, and must be for the present strictly adhered to.

Before proceeding to harmonize the following exercises, it would be well to construct a few tables like the accompanying, which will show at a glance the relations and the possible accidentals in the given key.

Principal key, B $\flat$ ....  Minor relations.  G (leading note F $\sharp$ ).  D (leading note C $\sharp$ ).  C (leading note B $\sharp$ ).	Major relations.  F (leading note E $\sharp$ ).  B $\flat$ (leading note D).  A (leading note G $\sharp$ ).
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An easy way to remember the notes that may be raised, is :  
They are the first, second, fourth and fifth of the scale.

In the exercises that follow, will be found both basses and melodies, to be harmonized. There are no new rules as yet to be observed; but we have made a gain of four chords, viz.: The chords that contain the accidentals, which chords are the dominants of the related scales. These exercises *must* be transposed to all the keys.

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7. In addition to the related scales there is another scale from which we can borrow some chords, viz., the parallel minor. By parallel minor is meant the minor scale beginning with the same key-note. Thus the parallel minor of C major is C minor; it has three flats for signature, being the relative minor of E<sub>b</sub>.

**RULE.**—In any given major scale the chords belonging to its parallel minor may be used. These chords are three in number (one being the same, whether the key is major or minor, viz., the dominant).

*C Major.*

C minor, parallel minor of C major, and relative minor of E<sub>major</sub>

We now have a means to harmonize E<sup>b</sup> or A<sup>b</sup> in a melody in the key of C, viz.: By C, E<sup>b</sup>, G; F, A<sup>b</sup>, C; or A<sup>b</sup>, C, E<sup>b</sup>; which last chord includes both these notes.

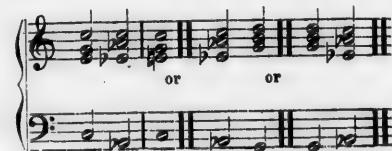
C, E<sup>b</sup>, G.—Is generally used as follows, *i. e.*, preceded by the major tonic or dominant, and followed by the dominant or chord on the sixth of parallel minor.



F, A<sup>b</sup>, C.—Preceded by the tonic, or major subdominant, or submediant, and followed by the tonic.



A<sup>b</sup>, C, E<sup>b</sup>.—Preceded by the tonic or dominant, and followed by the tonic or dominant.



All these chords are frequently used in succession, as follows:



8. The last common chord is the chord of the lowered supertonic, which is formed as follows:

**RULE.**—The supertonic of any scale, major or minor, may be lowered, and a major chord may be written on it. Thus the supertonic of C is D; lowered, it becomes D $\flat$ . The major chord written on it is D $\flat$ , F, A $\flat$ .

This chord should be preceded by the tonic or subdominant, or by one of the chords of the parallel minor, and should be followed by the dominant, or by the second inversion of the tonic.

This chord is more frequently used in its first inversion than in any other way; and in this form is called the Neapolitan sixth—for some unknown reason; and has a strange account given of its derivation. (See *Grove's Dict.*, *Neapolitan sixth*).





1, 2 and 3. First inversion of lowered supertonic; preceded by tonic, major and minor; followed by dominant, or tonic second inversion.

4. The chord is preceded by the chord on sixth of parallel minor, and has the root in the base.

5. Preceded by subdominant of parallel minor.

In the following example from Weber (*Der Freischütz*), the second inversion of this chord is used, followed by the dominant.



supertonic: preceded  
dominant, or tonic  
on sixth of parallel  
minor.

Der Freischütz), the  
wed by the dominant.

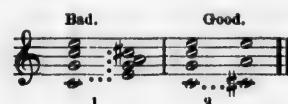
9. We return now to the rule (on page 24) that the second inversion of the tonic must be preceded by some chord belonging to its own scale. This must be now understood to include all the chords thus far mentioned, viz., the chords from the parallel minor, the lowered supertonic chord, and even some of the dominant chords of the related keys; but the rule still holds good that this second inversion must be followed by the dominant chord.



Nos. 4, 5 and 6 are not commonly met with, but can be very  
effective. These three examples (4, 5 and 6) are a contradiction

or exception to the rule (page 85), that the dominant must be followed by the tonic. (The progressions of the dominant will be more fully treated in the next chapter).

Another rule must now be given, viz.: When a note is altered by an accidental it must remain in the same part or voice that it had before alteration, thus:



No. 1 is bad, because the C is natural at the one extreme of the first chord, and sharp at the other extreme of the following chord.

No. 2 is good, because the C<sup>#</sup> occurs in the same part or voice, viz., the bass, that has the C<sup>#</sup>.

A passage like example 1 is called a cross or false relation. It can occur sometimes without a bad effect, as will be pointed out in the proper place.

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the dominant will

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## CHAPTER IV.

1. The dominant chord may have the seventh over the root added to it. This seventh is minor. Being a dissonant interval, it must resolve; *i. e.*, move always in one direction, *viz.*, downwards one degree.



In this example we have the dominant chord of C with the seventh, F, added. The voice or part that has the F, *must* afterward have E. The note to which the seventh descends, is the third of the tonic chord; hence the rule, that the dominant must be followed by the tonic. But there are other chords in the scale that contain this resolution note, that may be struck after the dominant. This gives us three progressions for the dominant with seventh:

- 1st. To the tonic chord.
- 2d. To the chord on the sixth of the scale.
- 3d. To the dominant of the relative minor.

The first progression can take place no matter what the *position* or *inversion* of the two chords may be. In this progression the third of the chord must ascend one degree.

The second progression can only take place when the roots of both chords are at the base. In this progression the third may descend when the fifth of the chord is at the top.

The third progression may take place no matter what the position or inversion of the two chords. In this progression the third does not move, because it is the fifth of the following chord. The root must be raised chromatically to the third of the following chord.

It is of the greatest importance that the pupil should fix in his memory these three progressions of the dominant chord with sevenths. The following examples must be worked out in every key.



In the above examples we have every variety of the first progression of the dominant with sevenths.

No. 1. With roots of both chords at the base, and seventh, fifth and third of the dominant chord at the top. It will be seen from this example that when the roots of both chords are at the base, the fifth of the tonic must be omitted, owing to the progression of the seventh and third of the dominant. (It is common in terminations to let the third of the dominant descend to the fifth of the tonic, but it is in questionable taste.)

No. 2. We have the first inversion of the dominant with seventh in all positions.

No. 3. We have the second inversion of the dominant with seventh in all positions. This second inversion of the dominant is under no restrictions as to its use at any time, owing to the presence of the seventh. The small notes in the bars indicate that the D may go to C or E; if it takes the E, the third is doubled; but it occurs in contrary motion, and is very effective, particularly when it occurs as at X.

No. 4 is the third inversion of this chord, viz., with the seventh for a base note. The small note in the first bar of this example shows how the third of the tonic may be doubled in contrary motion.

From these examples we get the following rules for the first progression of the dominant with seventh:

1st. When the *root* of the dominant is at the base, the tonic must have its root or fifth at the base; *never* the third.

2d. When the third of the dominant is at the base, the tonic *must* have the root at the base.

3d. When the fifth of the dominant is at the base, the tonic must have the root or third (sometimes the fifth, but it is not good).

4th. When the seventh of the dominant is at the base, the tonic must have the third.

Second progression of dominant with seventh:



No. 1. The seventh is at the top. The third of the dominant must ascend. The third of the chord on the sixth must be doubled, to avoid the consecutive fifths, which would occur if the D were to take the E.

No. 2. The dominant has the i. h at the top. The third in this case can either ascend or descend.

No. 3. The dominant has the third at the top, consequently the third of the following chord must be doubled. (See rule for writing two chords in tierce position). The small notes at the end of each bar signify that the chord on the sixth of the parallel minor is included in this second progression.

Example 8 is sometimes followed by the chord on the sixth in the octave position, but rarely



Third progression of dominant with seventh:



In these examples are all the varieties of which this progression is capable.

It will be seen that the root of the first chord always becomes the third of the second (by the chromatic alteration, effected by the #). This is in accordance with the rule on page 42, that whenever a note is altered chromatically it must remain in the same part or voice that it had previous to alteration. It will also be seen that the seventh always descends one degree.

It is evident that this third progression of the dominant (*i. e.*, to the dominant of the relative minor) can only take place in a major key. This leaves but two progressions for the dominant with seventh in a minor key, *viz.*, to the tonic and to the chord on the sixth.

(The author cannot insist too strongly on the necessity of becoming thoroughly familiar with these three progressions in every form and in every key, before proceeding any further. Their importance will become more and more manifest as we proceed).

The exercises that follow should be written repeatedly and transposed to all the keys. A careful study of this example will indicate how this new chord may be used when harmonizing a bass or melody.

It must first be remarked that all the dominants of the related keys may also have the seventh added, and henceforth must not be used without the seventh. We have already found that every note in the scale may be either a root, third or fifth (except the leading note, which cannot be a root; the supertonic, which cannot be a third; the subdominant, which cannot be a fifth). We now find that they may nearly all be sevenths.



No. 1 is the seventh in the dominant of the related key, G major.

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f the related key, G

No. 2 is the seventh in the dominant of the relative minor, A.  
No. 4 is the seventh in the dominant of the key.

No. 5 is the seventh in the dominant of D minor, the relative minor of F.

No. 6 is the seventh in the dominant of E minor, the relative minor of G.

No. 7 has to be lowered to B $\flat$ , because C is the dominant of F, and B $\flat$  is the minor seventh over C; also, B is flat in the key of F. (This gives us a means to harmonize B $\flat$  if it should occur in a melody in the key of C).

Since the seventh always descends, it is necessary before treating a note as a seventh, to observe that it must be followed by a note one degree lower than itself.

Bar 1. Tonic, dominant of key, with seventh, followed by

Bar 2. Chord on sixth, followed by dominant of F, seventh added, second inversion.

Bar 3. Tonic of F, followed by dominant of G, seventh added, first inversion.

Bar 4. Tonic of G, followed by dominant of A minor, seventh added, first inversion.

Bar 5. Tonic of A minor, followed by dominant of D minor, seventh added, third inversion.

Bar 6. Tonic of D minor, first inversion, followed by same, tierce position.

Bar 7. Second inversion, tonic, followed by dominant, with seventh added.

Bar 8. Tonic of C, with fifth omitted.

The same melody, with another harmony:



The pupil should analyze this without difficulty.

Try to find opportunities for all the resolutions of the dominant.





NOTE.—It is not necessary to write a separate chord to every note. If two or more notes in succession are members of the same chord, the chord need not be written with all of them.

Thus:



Not:



2. When the root of a dominant chord with seventh is omitted, the remaining notes form what is called the chord of diminished fifth on the leading note. It must follow the rules for the progression of the dominant, as though the root were present, except when it is used in its first inversion (which is the best way to use it), when the seventh may ascend or descend.



No. 1. Dominant of C, with seventh.

No. 2. Same, with root omitted.

Nos. 3 and 4 are the inversions.

No. 5 is the first inversion, with the seventh ascending.

There are two exceptions to the rule that the seventh must descend:



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No. 1. The dominant, second inversion, with the seventh at the top, is preceded by the tonic, tierce position, and followed by the tonic, first inversion. This is the only way this progression can take place.

Nos. 2 and 3. The seventh is doubled, and one resolves and the other ascends.

3. Any number of dominant chords with sevenths may be written in succession, whose roots are a fourth apart, ascending, or (what is the same thing) a fifth apart, descending. The easiest rule to remember this progression by, is: Lower the third of each chord chromatically, and it will be the seventh in the following chord.



In this example the six dominant chords that may be used in the key of C are written in succession.

Other progressions of the dominant chord with seventh may be met with that cannot be brought under any rule. They are not common, and can be better learned by studying the works of good writers than by attempting to give rules for them.





## CHAPTER V.

1. The ninth over the root may be added to the dominant chord. The ninth is minor (*i. e.*, an octave and a semitone) in minor keys. In major keys it may be major or minor, but is naturally major.
2. The ninth resolves like the seventh, by descending one degree. The first progression of the dominant only is possible when the ninth is added, *viz.*, to the tonic chord.
3. The ninth cannot be used for a base note; nor can it be written close to or below the root.
4. There are therefore only three inversions of this chord.

(55)

In this example are all the dominant chords that can occur in C, with the ninth added.

- No. 1. Dominant of C, with major and minor ninth.
- No. 2. Dominant of its relative minor, A.
- No. 3. Dominant of F, with major and minor ninth.
- No. 4. Dominant of its relative minor, D.
- No. 5. Dominant of G, with major and minor ninth.
- No. 6. Dominant of its relative minor, E.

The small notes indicate the resolution of the seventh, ninth and third.

When writing in four parts, it is necessary to omit one of the notes of this chord. The best one to omit is the fifth, or the third or seventh may be omitted.

The following example contains all the inversions and positions of the dominant of C, with seventh and ninth.

The pupil should write all the dominant chords in the same way, with major and minor ninth.

The musical score consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The time signature is common time (indicated by 'C'). The score is divided into two sections by a double bar line with repeat dots. The first section contains eight measures, labeled 1 through 8 below the staff. The second section contains two measures, labeled 9 and 10 below the staff. The chords are composed of various notes, including the dominant (G), seventh (D), ninth (B), and third (E). Small numbers (1-10) are placed above the notes to indicate specific inversions and positions. The bass staff shows sustained notes and some rhythmic patterns. The score is written on a grid of horizontal and vertical lines, with some lines being longer than others to represent different note durations.

Nos. 1, 2, 3 and 4 are the various inversions of the chord, with all the members present.

Nos. 5, 6, 7 and 8 are examples with the fifth or third omitted.

Nos. 9 and 10. Same, with minor ninth.

The pupil should try to find more than are here given.

5. Although the seventh may be added to the dominant at any time, the ninth cannot. Observation of the way it is used by good composers is the only way to learn. One rule might be given, viz.: The ninth should not be added when making a perfect cadence, unless it is done as follows:



The ninth is resolved before the seventh, by descending to the root of the chord.





An analysis of this example will guide to the best manner of using the ninth with the dominant.

6. This chord of dominant with ninth is more used without than with the root. When the root is omitted, the chord may have the three progressions of the dominant.

Example:



When the root is omitted, the remaining notes may be inverted in any way; but the major ninth is rarely used as a base note.

7. The succession of dominant chords, mentioned in the last chapter (page 47), can take place, with the ninth added. It is seldom written with the roots present; but is common without the root.

Roots: B E A D G

No. 1 is a succession of dominants with minor ninths, root omitted. This is known as the diminished seventh chord.

No. 2 is the same succession; but the alternate chords have only the seventh. The chord of B $\flat$  major is the lowered supertonic of A, hence it can be followed by the dominant of A, as above.

The pupil should write all these chords in all the keys and in all their inversions.

When harmonizing the following exercises, it is possible, whenever a dominant chord is used, to omit the root and add the ninth. It will be seen that the lowered notes in the scale may all be treated as minor ninths. We find so far that it is possible to have four raised notes in a scale; that they are leading notes to related scales; also, we may have four lowered notes in a scale which will be ninths in the dominant chords of the scale and its relations (although there are other ways to harmonize the lowered notes). So the accidentals, that can be harmonized in a scale, always occur in dominant chords, or the parallel minor, or lowered supertonic.

The dominant with minor ninth may have the root and third omitted. The result is a diminished chord on the second degree of a minor scale. The same remarks, as to inversion and progression, apply to this chord as to the diminished chord on the leading note in the minor key. It takes the place of a super-tonic chord, and is generally followed by the second inversion of the tonic.

A musical score for four voices, likely soprano, alto, tenor, and bass. The score consists of four staves, each starting with a treble clef and a key signature of one sharp (F#). The music is in common time. The notes are represented by various symbols, including solid black notes, white notes with black stems, and white notes with black dots. The first staff begins with a solid black note followed by a white note with a stem. The second staff begins with a white note with a stem followed by a solid black note. The third staff begins with a solid black note followed by a white note with a stem. The fourth staff begins with a white note with a stem followed by a solid black note.



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## CHAPTER VI.

1. The eleventh may be added to the dominant. It is perfect; being the perfect fourth, removed an octave. The third must be omitted when the eleventh is added. It resolves, by descending to the third of the chord. If the ninth be present, it generally descends to the root at the same time that the eleventh descends to the third. This chord may be inverted in any way (except the ninth, which cannot be a base note or close to the root). In four-part writing, the fifth, seventh or ninth may be omitted.



The above contains examples of the way this chord is generally used when the root is present.

2. This chord is more often used without the root. The root being omitted, the chord has the three progressions of the dominant, and it may be inverted in any way. The following rules must be observed :

1st. If the eleventh descends, the fifth must remain stationary or ascend.

2d. If the eleventh remains stationary, the fifth must ascend one degree.

3d. The root and third being absent, the seventh and ninth are free to move in any direction.

REMARK.—It is better, in general, that the eleventh should be heard in the preceding chord; but it is not necessary.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

No. 1. Dominant of C, eleventh added, root and third omitted. The eleventh descends; the ninth also; the fifth remains.

No. 2. Same, with minor ninth.

No. 3. Same, followed by tonic. Eleventh remains; fifth ascends.

No. 4. Same, with minor ninth.

No. 5. Same, followed by dominant of relative minor.

No. 6. Same, followed by chord on sixth.

No. 7. First inversion of same chord, followed by tonic. The seventh, F, may go to G, E or C.

No. 8. Same progression, with minor ninth.

No. 9. First inversion, followed by chord on sixth.

No. 10. First inversion, followed by dominant of relative minor.

No. 11. Second inversion, followed by tonic.

No. 12. Second inversion, with minor ninth.

No. 13. Second inversion, followed by dominant of relative minor.

No. 14. Second inversion followed by dominant of relative minor.

No. 15. Third inversion, eleventh and ninth resolving on third and root of the chord.

No. 16. Third inversion, followed by dominant of relative minor.

No. 17. Third inversion, with minor ninth, followed by dominant of relative minor, with enharmonic change of A $\flat$  to G $\sharp$ .

It will be seen from these examples, that the only chords that can follow this one are the three that may follow the dominant chord with the seventh; hence this group is considered to come from the dominant, as its root.

(Harmonize the melodies already given over again, and try to introduce this new chord.)

Recapitulation of the harmonies of the dominant:



The 1st group consists of major third, perfect fifth and minor seventh, and is a dominant with the seventh added.

Y.  
followed by tonic. The  
ninth.  
ord on sixth.  
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y dominant of relative  
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The 2d group consists of minor third, diminished fifth and minor seventh, and is a dominant with major ninth added; root omitted.

The 3d group consists of minor third, diminished fifth and diminished seventh, and is a dominant with minor ninth added; root omitted.

The 4th group consists of minor third, perfect fifth and minor seventh, and is a dominant with major ninth and eleventh added; root and third omitted.

The 5th group is the same as the 2d; consequently it may be either dominant with major ninth added, root omitted, or dominant with minor ninth and eleventh added, root and third omitted.

Consequently the 2d group in the above example may come from either G, the dominant of C, or E, the dominant of its relative minor. The 5th group may come from B $\flat$ , dominant of E $\flat$ , or G, the dominant of C, its relative minor. Therefore there are four notes in common between the dominant harmony of a major key and the dominant harmony of its relative minor. By the enharmonic change of the minor ninth there are five notes in common, thus:



1. Dominant of C, with major ninth.
2. Dominant of A, with minor ninth and eleventh.



1. Dominant of C, with minor ninth.
2. Dominant of A, with minor ninth; the A $\flat$  becoming G $\sharp$ .

3. It is owing to this fact of there being so many notes in common between the two chords, that any group, derived from one, may be followed by any group, derived from the other.



Every group in this example, except those marked X, belongs to either the dominant harmony of C or of A minor.

(It is sometimes objected to this way of treating these chords—That to be consistent, such groups as the following should be treated as coming from the dominant, viz.: D, F, A, which would be the fifth, seventh and ninth; or F, A, C, which would be the seventh, ninth and eleventh. This objection is easily met as follows: There *must* be a dissonant interval in a chord or it cannot be a dominant harmony. In all the groups there is either a minor or diminished seventh, or a diminished fifth. I would again say that it is only for the sake of simplicity and system that the dominant is treated as the root of these chords; not from a belief that it is so.)

4. The succession of dominant chords (see page 53) is also possible when the eleventh is added, although the third is not present.



2. Dominant of C.  
3. Dominant of F. B<sub>b</sub> is the lowered third of the preceding chord.  
5. Dominant of G.  
6. Dominant of C, with eleventh.  
7. Dominant of F, with eleventh.  
8. Same, with minor ninth.

ere being so many chords, that any followed by any



those marked X, be-  
f C or of A minor.

way of treating these groups as the following dominant, viz.: D, F, A, ninth; or F, A, C, which ninth. This objection is a dissonant interval in a harmony. In all the diminished seventh, or a that it is only for the dominant is treated as belief that it is so.)

nt chords (see page  
eleventh is added, al-

## CHAPTER VII.

1. The supertonic of any key, major or minor, may be treated as the root of a harmony similar to the dominant harmony. The four groups that may be derived from this harmony are always followed by the tonic chord, which sounds best in its second inversion. The dissonant notes in a supertonic harmony do not require resolution, as in the dominant harmonies by descending: they generally remain stationary (because the seventh, ninth and eleventh over the supertonic make this tonic chord).

If the second inversion of the tonic is to follow the supertonic harmony, the latter should have the root, third or fifth for a base note. If the first inversion of the tonic is to follow, the supertonic harmony should have the ninth (minor is best) for a base note. If the tonic, with root for a base, is to follow, the seventh of the supertonic harmony should be in the base and the root omitted.



major or minor, harmony similar to groups that may always followed best in its second a supertonic har in the dominant generally remain ninth and eleventh chord).  
tonic is to follow should have the . If the first in the supertonic har (or is best) for a for a base, is to the harmony should

No. 1. Supertonic harmony of C, seventh added, root at the base.

No. 2. Supertonic harmony of C, seventh and major ninth added, root at the base.

No. 3. Supertonic harmony of C, seventh added, third at the base.

No. 4. Supertonic harmony of C, seventh and major ninth added, third at the base.

No. 5. Supertonic harmony of C, seventh and minor ninth added, third at the base.

No. 6. Supertonic harmony of C, seventh added, fifth at the base.

No. 7. Supertonic harmony of C, seventh and major ninth added, fifth at the base.

No. 8. Supertonic harmony of C, seventh and minor ninth added, fifth at the base.



No. 1. Supertonic harmony of C, minor ninth at the base, followed by first inversion, tonic.

No. 2. Supertonic harmony of C, seventh at the base, followed by tonic, root at the base. (In this progression the E<sup>b</sup> is almost universally written D<sup>#</sup>.)

No. 3. This is the only way this harmony, with the eleventh added, can be used, viz., with the minor ninth and in this position.

No. 4. This sometimes occurs, the third falling to the root of the tonic.

The supertonic harmony may be written after the lowered supertonic chord, as follows:



NY.

itten after the lowered

## CHAPTER VIII.

1. The chord of augmented sixth is a dominant or supertonic harmony from root to seventh, or from third to minor ninth, with the fifth lowered chromatically. The easiest way to remember it is: the so-called root is the minor sixth or minor second of the scale. This so-called root is the fifth of the original chord lowered, and is, strictly speaking, only a passing note between the fifth of the chord and the note below, to which it descends. This chord must be followed by the tonic or dominant.



1st example. First chord is the dominant of G, or supertonic harmony of C. Second chord is the augmented sixth on lowered sixth of C, or lowered second of G. The third chord is tonic of G, or dominant of C. Fourth chord is tonic of C. In this example the root is present.

2d example. The root is absent, the minor ninth present; D being the root. A is the fifth, which is lowered to A♭, and is called the root of the augmented sixth. The augmented sixth lies between the A♭ and F♯. This chord may be inverted in three ways. It is not often used in inversions however.



In No. 1 the lowered fifth, A $\flat$ , skips to the root.  
In No. 2 the lowered fifth ascends to the natural fifth.

The sixth degree in a minor scale does not require to be lowered when writing an augmented sixth over it; or, in other words, the dominant chord in which this note is the fifth, requires an accidental.



Root: B. F $\sharp$  is the fifth; but F is natural in A minor.

2. The augmented sixth on the sixth degree of a minor scale may be followed by the tonic of the relative major. This progression is best with the roots of both chords in the base.



Augmented sixth on sixth of A minor, followed by tonic of C, the relative major.

This progression can be explained by our theory of the three progressions of a dominant chord. The root of the first chord is B, therefore it is only the dominant chord of E, followed by the chord on the sixth of its scale.

(The finest illustration I know of this progression is in the introduction to "Faust"—Gounod.)

No. 1. Augmented sixth on sixth-degree of D minor, followed by dominant.

No. 2. Augmented sixth on sixth degree of F, or supertonic of C.

No. 3. Augmented sixth on sixth degree of C.

No. 4. Augmented sixth on sixth degree of G.

No. 5. Augmented sixth on sixth degree of A minor.

No. 6. Augmented sixth on sixth degree of C. This is the only way this inversion can be used smoothly.

No. 7. Augmented sixth, lowered supertonic of C, followed by dominant; or dominant of C, with lowered fifth, followed by dominant.

The augmented sixth completes the list of chords; what follow are either suspensions or retardations. Introduce the augmented sixth as often as possible in the following example; also the supertonic harmony.



Y.  
list of chords; what  
tions. Introduce the  
the following example;



## CHAPTER IX.

1. When passing from one chord to another, one or more of the members of the first chord may be prolonged into the second chord; provided, they afterward ascend or descend one degree to a member of the second chord. This is called retardation.



In the 1st example the D is prolonged from the first chord (with or without a tie), in which it is a member, into the second, in which it is not a member. It then resolves, by descending one degree, to C, the root of the second chord. The prolonged D is the *retardation*. The note C, on which it resolves, is the retarded note. This is therefore a retardation of the root from above.

The 2d example is a retardation of the root from below.



- No. 1. Retardation of root from above and below.
- No. 2. Retardation of third from above.
- No. 3. Retardation of third from below.
- No. 4. Retardation of third from above and below.
- No. 5. Retardation of third from above and root from below.
- No. 6. Retardation of root and third from above.
- No. 7. Retardation of third from above and root from above and below.
- No. 8. Retardation of fifth from above.
- No. 9. Retardation of fifth from below.
- No. 10. Retardation of third from above, root from above and below and fifth from above.

The following rules must be observed:

1st. A retardation that resolves upward, must ascend a semitone, except when the note on which it resolves is the third of a chord; in which case it may ascend a whole tone; or, in other words, the root, third and fifth may be retarded from above by a whole or half tone. The third may be retarded from below by a whole or half tone. The root and fifth by a half tone only.

2d. The note on which the retardation resolves, must never be sounded close to or above the retardation (the root may be sounded above).



No. 1. The C and D are sounded together.

No. 2 is possible.

No. 3 is bad.

3d. The note of resolution may be sounded at the octave below.



4th. All these retardations may occur in any of the parts but the base. The only one that can occur in this is the retardation of the third from above.



The following example can be easily analyzed:

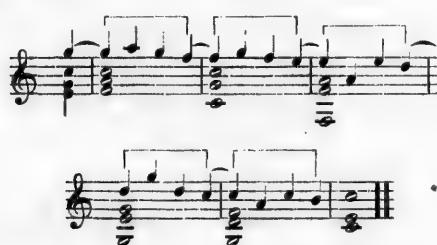
2. A retardation that resolves by descending, may skip to the note below its resolution.

A retardation that resolves by ascending, may skip to the note above its resolution.

Either may skip to some other member of the chord in which they resolve, before going to their note of resolution.



Or they may skip to some other member of the chord and return to the retardation.



Or they may skip to some other member of the chord, and then, if a descending retardation, to the note below, and if an ascending retardation, to the note above the resolution.



The notes joined by the lines are the retardation and its resolution.

Harmonize the following melodies—First in the soprano, then in the alto, then in the tenor part; so as to become familiar with retardation in all the parts. In the first example the retardations are all marked with a tie. This is not always necessary, because a note may be turned into a retardation by having two chords written to it, thus:

Soprano.      Alto.      Tenor.

The musical example consists of three staves of music. The soprano staff is in treble clef, the alto staff is in bass clef, and the tenor staff is in tenor clef. The music is divided into measures by vertical bar lines. The soprano and alto staves have a common key signature of one sharp (F#). The tenor staff has a common key signature of one flat (B-flat). The music includes various note heads, stems, and ties, typical of early printed music notation.

With the retardations skipping:



Without ties:



43

## CHAPTER X.

1. An appoggiatura or changing note is a note struck with a chord; one degree above or below one of the members of the chord. Its only difference from the retardation is, that it need not be a member of the chord preceding the one in which it is struck. All the remarks applying to the retardation, apply to the appoggiatura, viz.:

If above the root, third or fifth, they may be a whole tone; if below, a half tone, except below the third, when it may be a whole tone. They may skip in the same way that the retardation does. They may occur before two members of a chord, provided they are a third or sixth apart.





At the \* we have single appoggiaturas, from A to B; at B are double appoggiaturas; at C they skip to the note above or to the note below their resolution.

2. Appoggiaturas always occur on the accented beat of the measure or on the first member of a beat.

3. When these dissonant notes occur on the unaccented beats or on the second member of a beat, they are called passing notes. There are five varieties of passing notes.

1st. Those that enter by degrees, either diatonic or chromatic.





No. 1. The passing notes are on the unaccented beats.

No. 2. The passing notes are on the unaccented members of the beats.

No. 3. The passing notes are chromatic.

The diatonic passing notes generally occur between two harmonized notes, as in the above examples; but sometimes two diatonic notes in succession are passing notes. This can only occur as follows, viz., the first note is the root of a chord, the last its fifth, or the reverse.

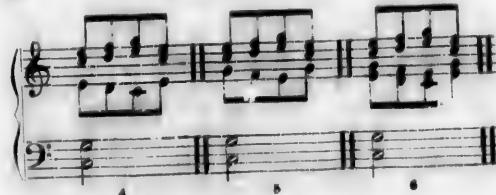


Sometimes a passing note and changing note occur in succession, as follows :



The remarks with regard to retardations and changing notes apply equally to passing notes, viz.: An ascending passing note may skip to the note above its resolution; a descending passing note to the note below its resolution. Also, the note of resolution and the passing note should not be sounded together; but the note of resolution may be sounded at the octave above or octave below. Also, passing notes may be doubled in thirds or sixths. They may also be doubled at the octave by parts moving in opposite directions. Lastly, both ascending and descending passing notes may skip to another member of the chord before resolving.





No. 1. Passing note, skipping to note above.

No. 2. Passing note, skipping to note below.

No. 3. Passing note, doubled in thirds and sixths.

No. 4. Passing note, doubled in thirds and octaves, three parts.

No. 5. Passing note, doubled in thirds and octaves, three parts.

No. 6. Passing note, doubled in thirds and octaves, four parts.

Appoggiaturas:



Same, skipping:



Passing notes, first species:



Same:



The second variety of passing notes consists, in striking after a harmonized note, the degree above or below, and returning to the harmonized note.



All the remarks concerning the previous variety, apply to this one.



N. B.



No. 1. Both the notes above and below the harmonized note are struck.

No. 2 Both the notes below and above.

No. 3 Doubled in thirds.

No. 4. Doubled in sixths.

No. 5. Doubled in thirds, notes above and below the harmonized note.

The third variety of passing notes enter by skips; but are subject to the same rules.



N. B.



vious variety,



harmonized note

below the harmon-

enter by skips;



No. 1. B is a passing note; entering by skip. It is one degree below the note to which it passes. It is a semitone; because all notes of this sort, whether passing, changing or retardations, must be, if below the root or fifth of the chord, a semitone.

- No. 2. Same, skipping to note above.
- No. 3. Same, skipping downwards.
- No. 4. Notes below and above.
- No. 5. Notes above and below.
- No. 6. Notes below, doubled in thirds.
- No. 7. Notes below, doubled in sixths.
- No. 8. Below and above, in thirds.
- No. 9. Same, in sixths.

Although, when these notes are above a harmonized note, they may be a whole or half tone. Yet if naturally a half tone, they cannot be changed to a whole tone; although, if a whole tone, they may be changed to a half tone. It is for this reason that, at the places marked N. B., the first F is made sharp and the second natural. The first F# is a passing note to G; the F# is a passing note above E. If this passage occurred in the key of G, then both the F's would be sharp.

Before treating of the two remaining varieties of passing notes, we will give the following general rule for all the preceding varieties (including retardations):

The notes that lie one degree on either side of a harmonized note, may be struck *before* it, either by prolongation from a preceding chord, or by entering diatonically, chromatically or by skip; provided, always, that the dissonant note, be it a retarding, changing or passing note, is followed by a harmonized note; which harmonized note may either follow

immediately or may be delayed by the dissonant note if below, skipping to the note above, and *vice versa*, or skipping first to some other member of the chord.

The fourth variety is a variation or ornamentation of the first.

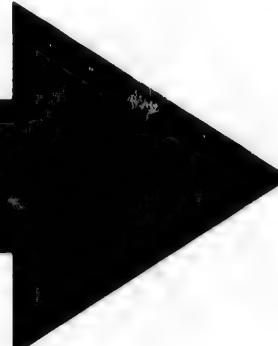
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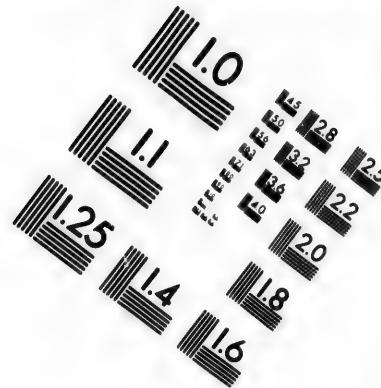
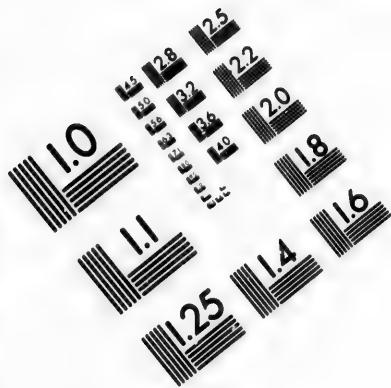


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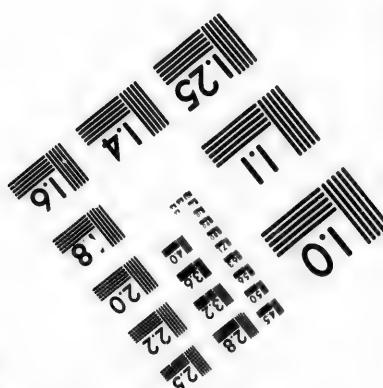
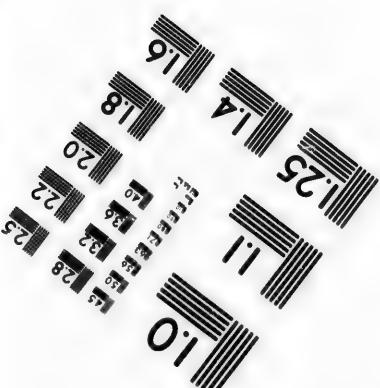
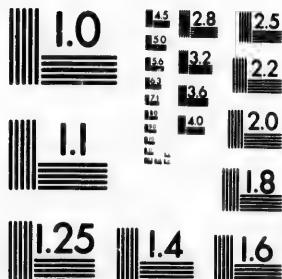
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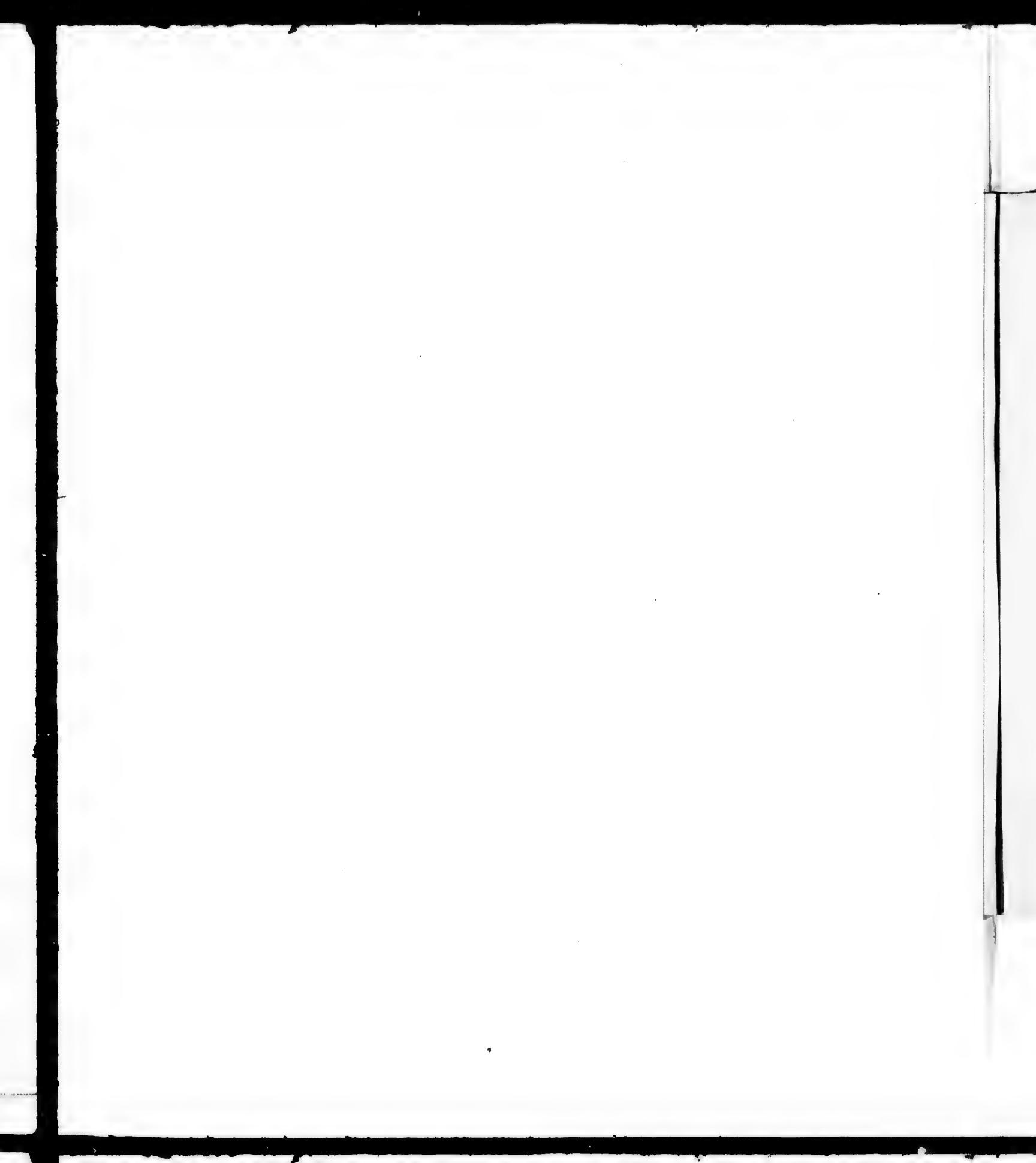
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These examples might be multiplied indefinitely; but enough are given to explain the formation of passages of this kind. One of the best places to study their varieties, is in the works of Handel. This variety can be doubled in thirds and sixths.

The fifth variety is called the anticipatory note. Its use will be easily seen from the following examples:



The last is the almost universal termination of all of Handel's solos, airs, songs, etc.

Second variety:



Third variety:





## Fourth variety:



N. B. ....



## All varieties:





At N. B. is the melodic minor scale, first ascending, then descending. This is the only way it can be used, viz., as passing notes.

Two staves of musical notation. The top staff is in G major and the bottom staff is in D major. The notation shows two different ways to play the melodic minor scale. The first way (labeled 1) starts with a G major chord and the second way (labeled 2) starts with a D major chord. The notation illustrates the melodic minor scale, first ascending, then descending, as passing notes.

Two staves of musical notation. The top staff is in G major and the bottom staff is in D major. The notation shows two more ways to play the melodic minor scale. The first way (labeled 3) starts with a G major chord and the second way (labeled 4) starts with a D major chord. The notation illustrates the melodic minor scale, first ascending, then descending, as passing notes.



The foregoing are examples of the use of the melodic and harmonic minor scales, with the different harmonies.

No. 1. Ascending, with tonic. First is best.  
No. 2. Ascending, with dominant. Both are good.

No. 3. Ascending, with subdominant.

No. 4. Descending, with tonic. First is best.

No. 5. Descending, with dominant.

No. 6. Descending, with subdominant.

Nos. 7 and 8 are used at the base. The skips of augmented seconds in passages like the above in the base, being very disagreeable.

## CHAPTER XI.

We have now acquired all the means of harmony, except a few irregular or rare progressions and some other matters that would not come in well under any of the headings so far. This chapter will be devoted to all these matters.

1. **PEDAL POINT.**—The tonic or dominant, or both, may be held for an indefinite time, and any succession of harmonies belonging to the key, may be written with them; provided, the prolonged note is a member of the first and last chord in the series. This prolonged note may have a place in any of the parts; but is more often used as a base note. The harmonies written with a pedal note should progress as though the pedal note were absent. (It is better, as a general rule, that no harmonies more remote than the dominant harmonies of the related keys be used.)



(95)



The pedal point is often of very short duration, as in the following examples:

Two musical examples illustrating short pedal points. Each example consists of two staves. The top staff shows a continuous bass note (F#) with a sixteenth-note head. The bottom staff shows a continuous bass note (C) with a sixteenth-note head. The first example has a key signature of one sharp. The second example has a key signature of one sharp.

2. Exceptional progressions of the dominant with seventh.



In this example the dominant is followed by the subdominant, first inversion. The seventh does not resolve. This progression can occur both in major and minor keys.



In this example the dominant is followed by the second inversion of the supertonic. (Properly considered, the whole passage is dominant harmony; the A—A being merely passing notes, doubled at the octave, by two parts proceeding in opposite directions.)

The following progressions of the dominant with seventh will sometimes be found, but are rare:



The following progression of the seventh sometimes occurs when the bass descends to the third of the tonic. This is done to avoid the doubling of the third in direct motion.



3. The fifth of a major chord may be changed to an augmented fifth, provided the augmented fifth ascends one degree. (This applies also to a dominant with seventh.)



No. 1. The second chord is a combination of passing note E and augmented fifth, C#.

4.



This example is a combination of a double retardation and a changing note. Such combinations are only possible when the dissonant notes, taken collectively, form part of the dominant harmony of the key of which the chord on which they resolve is the tonic. In this example, C#, E, G, are part of the dominant harmony of D. D, F, A, is the chord in which these notes resolve.

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ation of passing note E

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5. Changing and passing notes may be doubled when they are an augmented fourth or diminished fifth apart; provided, the two sounds always move in opposite directions to their resolution.



Passages like this may be explained on the theory of a "harmony within a harmony;" because they always bear the relation of either dominant or supertonic harmony to the chord with which they occur.

6. Passages like the following can be used, consisting of passing notes of various kinds. The design of such passages seems to take possession of the listener and cover the harshness of the numerous dissonances.





They must always begin and end with a chord.

Various passages of this kind can be found; but enough has been said to guide to their understanding.

7. FALSE RELATION.—When a note, occurring in two successive chords, is chromatically changed, without remaining in the same voice, it is termed a false or cross relation.



No. 1 is always bad.

Nos. 2, 3, 4 and 5 are common.

The following might be given as a rule for these progressions: A false relation must never be made with the third of the chord (Example 1); but it may occur with any other member. Example 2, it is the seventh; this progression is rare. Example 3 and 4, it is the root that is altered; 3 is better than 4. Example 5, the fifth is altered; this is very common and is always good.

8. When any two parts ascend or descend together to an octave, from some other interval, it is called a concealed octave:



because, if the intervening notes are put in as in this example, two octaves will result. The unpleasant effect is supposed to be obliterated when the upper part moves a semitone, as in this example.

A fifth, which enters in this way, is also called a concealed fifth.



9. When the different notes forming a harmony are struck successively, instead of simultaneously, the chord is said to be broken or dispersed.

The following are the commonest forms of dispersion:



No. 1 is called an arpeggio.

No. 2 has no distinctive name.

No. 3 is called an "Alberti bass," from its reputed inventor, Dominico Alberti. Of course, this dispersion may be varied in many ways. It may also have passing notes interspersed with the members of the chord.



These and many other forms are frequently met with, particularly in modern piano music.

Consecutive fifths and octaves may occur between a part or voice and the dispersed notes of the accompanying chord; also, consecutive dissonances.



At A there are two fifths; at B, two octaves; at C, two sevenths. But the ear does not recognize them, because it is at once satisfied that the harmony is as follows:



dispersed or broken, for the sake of variety.

10. CONCERNING CONSECUTIVE FIFTHS.—There is an unfortunate prejudice against consecutive fifths in the minds of the majority of musicians, in spite of the fact that they are often used by the greatest writers. The excuse given for this is, that these writers knew how to use them. If this is true, it would seem to be the duty of any who attempts to teach harmony or composition, to find out and formulate the rules by which these composers worked. The following remarks are an attempt to supply some such rules:

1st. Two perfect fifths, occurring between extreme parts, are always disagreeable when the roots are within one degree of each other. The disagreeable

effect is a little less when the roots are a third apart; still less, if a fourth apart; and least of all, when a fifth apart. In the last two cases the softening of the effect is owing, probably, to the fact that there is a connecting sound, viz. :



It will be seen that the connection in the second example is still closer than in the first. These two cases are to be found in the works of many good writers. Of course, the effect is still more softened by contrary motion between the extreme parts. (See example on page 29.)

It is possible to have two perfect fifths, in succession, between the extreme parts, when one of them occurs between any two members of the chord but the root and fifth.



The first fifth is between the root and fifth of the chord; the second, between the fifth and seventh of the chord. (The absence of unpleasant effect here may be owing to the fact that it is the dominant of a minor key, followed by the dominant of its relative major, and these two chords having so many sounds in common.)

2d. Two perfect fifths, in succession, may occur between the middle parts (tenor and alto), as follows:



without any unpleasant effect. Of course, if they can occur at the distance of fourth or fifth between the extremes, they can between the minor parts do likewise. They may even occur a third apart, without any serious unpleasantness.



3d. Perfect fifths, one degree apart, may occur between the base and the tenor or alto, when they result from the resolution of an augmented sixth chord, as follows :



(This can be found in Mozart and Beethoven.)

4th. Perfect fifths, a third apart, may occur between the base and tenor or alto, as follows :



5\*

5th. Of course, they may be a fourth and fifth apart.

6th. A diminished can always follow a perfect fifth, in a descending passage, as follows:



The perfect may follow the diminished, as follows:



I do not put forth any of these remarks as rules (except the last, which is old); but merely to point out the way that consecutive fifths are often used by good writers. No satisfactory reason has ever been given, why they should be unpleasant. Indeed, there is good ground for suspicion that it is merely the result of education; the learner being from the beginning cautioned against them as the unpardonable sin in writing. (See Helmholtz and Pole on this subject.)

If the deciphering of old manuscripts is to be trusted, there was a time when the only intervals used were the perfect fourth and fifth as follows:



This was known as diaphony. It may be that the forbidding of consecutive fifths, altogether, was merely a reaction from this unquestionably barbarous style of composition.

fourth and fifth

follow a perfect  
lows:

shed, as follows:



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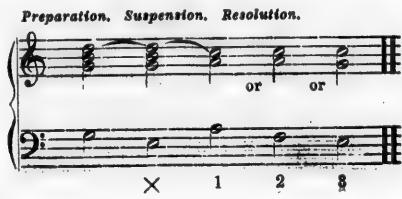
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l were the perfect



that the forbidding  
ly a reaction from  
position.

## CHAPTER XII.

**SUSPENDED DISSONANCES AND SEQUENCES.**—Before it was discovered that the seventh could at any time be struck with the dominant chord, it was used only as a suspension and could be added to any chord; but it was and is necessary to prepare it; *i. e.*, it must be heard as a member of the preceding chord. The modern or harmonic system has retained this rule from the old or contrapuntal system; therefore the seventh and the ninth may be added to any chord, major or minor, by suspension. It must always resolve like the seventh and ninth in the dominant chord; and a chord with seventh or ninth added by suspension, has three progressions, just as the dominant chord has, *viz.*: It can be followed by a chord whose root is a fourth above (tonic); a second above (chord on sixth), and a third below (dominant of relative minor).



Chord of E, with suspended seventh; the seventh resolves on C; and

The chord marked 1, is similar to first progression of dominant with seventh.

The chord marked 2, is similar to second progression of dominant with seventh.

The chord marked 3, is similar to third progression of dominant with seventh.

The seventh and the ninth are the only suspensions possible. They can be inverted like the dominant with seventh and ninth, in short chords with a suspended seventh or ninth, are in every respect to be treated just the same as dominant chords with seventh or ninth.



It will be seen that a suspension differs materially from a retardation, because it always resolves *downward, and never in the same chord in which it occurs*. Suspensions may skip to the note below their resolution, or to some other member of the chord. They are also frequently ornamented by passing notes.





This example is founded on the following succession of suspended sevenths:



SEQUENCES.—A melodic sequence consists of the same phrase repeated at equidistant degrees, thus:



A harmonic sequence consists of a series of dominant and tonic harmonies (generally), or augmented sixth and tonic or dominant harmonies; the roots of which proceed by similar steps.



No. 1 is a sequence of dominant and tonic chords; the roots fall a fifth and rise a sixth alternately.

No. 2 is a sequence of augmented sixths and dominant chords, the roots falling a semitone.

No. 3 contains both these examples in the first bar. The second bar is a repetition of the whole phrase, one degree higher.

It would be impossible to give examples of all the harmonic sequences that might be made. The above examples are enough to explain the manner of their construction.

The contrapuntal sequence consists of a succession of common chords, with roots moving in some regular plan. The diminished chords can be used, with the lowest note of the group for a base note, although there is a rule to the contrary (see page 52). This permission is for the sake of preserving the form of the sequence.

No. 1 is one of the commonest. The roots rise a fourth and fall a third.

No. 2. Roots rise a fifth and fall a fourth.

No. 3. Roots fall a fifth and rise a fourth.

tonic chords; the roots  
and dominant chords,  
in the first bar. The  
whole phrase, one degree  
of all the harmonic  
above examples are  
construction.

No. 4 consists of a phrase of four chords, repeated a third lower.

Nos. 1, 3 and 4 can be changed into harmonic sequences easily, as follows:

Of course, it is not necessary in any sequence that the roots of the chords must always be at the base.

The following examples are contrapuntal sequences, with seventh and ninth added.

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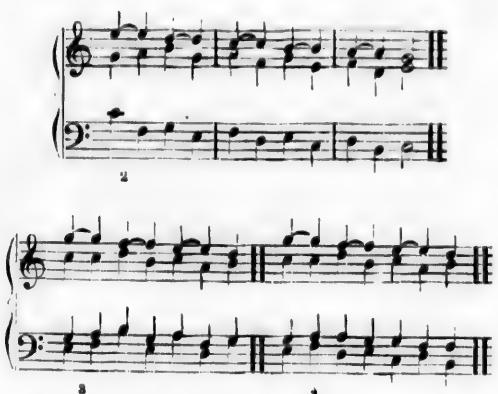
chords, repeated a third

into harmonic sequences



y in any sequence that  
always be at the base.

trapuntal sequences, with



No. 1. Sequence of suspended sevenths; roots fall a fifth and rise a fourth.

No. 2. Sequence of suspended sevenths; roots rise a second and fall a third.

No. 3. Sequence of suspended ninths; roots rise a fourth and fall a fifth.

No. 4. Sequence of suspended ninths; roots fall a third and rise a second.

No. 1 may be changed into the harmonic sequence (described on page 58), as a succession of dominant chords.



No. 2 may be changed into a harmonic sequence in two ways.

No. 1 is a sequence of dominant chords resolving on the sixth of their scale.

No. 2 is a sequence of dominant chords with roots omitted, resolving on their tonics.

NY.

sequence in two ways.



ords resolving on the  
rds with roots omitted,

## CHAPTER XIII.

**MODULATION.**—Modulation is the act of passing from one key to another. There is, unfortunately, no way of distinguishing between modulations to related and modulations to non-related keys. The term *transition* is sometimes used to signify a sudden change to a remote key. It would, perhaps, be a good method to use the term *modulation* to signify the change to a related key, and *transition* to signify the change to a non-related key. It is very unfortunate, but true, nevertheless, that the musical nomenclature of the English language is in a very confused state.

I shall use the word *modulation* in its generally accepted sense—to cover all possible changes of key.

All modulations may be reduced to four rules:

1st. By taking advantage of the fact that the dominant chord is the same, whether the key is major or minor.

This will give six modulations from any given key, because there are six dominant chords in every key.

The following examples contain all the modulations that may be made by this rule, from the key of C.

(115)



In 1, 2 and 3 the major tonics of the key are changed to minor.

No. 1 becomes C minor, relative minor of E $\flat$ .

No. 2 becomes G minor, relative minor of B $\flat$ .

No. 3 becomes F minor, relative minor of A $\flat$ .

In 4, 5 and 6 the minor tonics of the scale are changed to major.

These examples are, of course, mere skeletons, being too abrupt to have any musical effect as they stand; in fact, it might almost be laid down as a rule that no modulation has any intrinsic beauty; it depends altogether on the way it is used. Some of the most beautiful examples in the works of the great masters are as simple as possible; but the manner of their use gives them all their exquisite effect.



the key are changed to

minor of E $\flat$ .

minor of B $\flat$ .

minor of A $\flat$ .

the scale are changed to

mere skeletons, being too  
as they stand; in fact, it  
isle that no modulation has  
together on the way it is  
examples in the works of  
possible; but the manner  
quisite effect.

It will be seen that by extending this rule to each new key that is reached, that it is possible to pass through all the keys. For example, the first modulation changes the key to E $\flat$ ; then by applying the rule to the chords in E $\flat$ , six new changes would be obtained.

The following examples will show how effective a modulation of this kind may be made.

C.



C minor.

E $\flat$





C major.



The second means by which modulations may be made, is by taking advantage of the different places in which a major or a minor chord may be found.

A major chord may be found in six places, viz.: As a tonic, subdominant, dominant, sixth of a minor scale and lowered supertonic of a major or minor scale.



No. 1. C major as a subdominant. (When treating a chord as a subdominant or lowered supertonic, the modulation is more decided if it be followed by the second inversion of the tonic.)

No. 2. C major as a dominant.

No. 3. C major as chord on sixth of E minor. (This modulation may proceed to E major, in accordance with the rule that any chord in a minor key may be used in its parallel major.)

No. 4. C major as lowered supertonic of B major or minor.

The following harmonic sequence may be constructed from this last example.

Each common chord bears the relation of tonic to the dominant that precedes it, and lowered supertonic to the dominant that follows it.

The following examples give the modulations that may be obtained from the two remaining major chords in the key of C.

F as dominant.      F as sixth of A minor.

F as lowered supertonic of E.

G as subdominant.      G as sixth of B minor.

G as lowered supertonic of F<sup>#</sup>.

A minor chord may be found in six places, viz.: Tonic and subdominant in a minor key, and supertonic, mediant and submediant in a major key.

A minor as subdominant of E.

A minor as mediant of F (third degree).

A minor as supertonic of G.

(It would be superfluous to give any more examples. The pupil ought to be able to construct them himself.)

A major chord may have an augmented sixth added to it.

No. 1. C major, changed to augmented sixth on sixth degree of E.

No. 2. C major, changed to augmented sixth on lowered supertonic of B.

No. 3. G major, changed to augmented sixth on sixth of B.

No. 4. G major, changed to augmented sixth on lowered supertonic of F#.

A major and minor chord may be treated as the seventh, ninth and eleventh of a dominant harmony, provided the fifth from the root is added. Thus C, E, G may be the seventh, ninth and eleventh from D, by adding A, the fifth from the root, D.

No. 1. F, changed to dominant of C.

No. 2. C, changed to dominant of G.

No. 3. E minor, changed to dominant of B.  
 No. 4. B minor, changed to dominant of F#.

The third of the major chord may be changed, thus :



because it becomes the ninth when treated as above.

The minor chord may also become the fifth, seventh and ninth of a dominant or supertonic harmony, by adding the root or third to it.



No. 1. A minor, changed to dominant of G.  
 No. 2. D minor, changed to supertonic harmony of F.  
 No. 3. E minor, changed to dominant of D.

The third means of modulation is by the chromatic alteration of chords. Common chords may be chromatically altered, as follows :



i. e., the third alone or the third and fifth of a major chord may be lowered, or the root may be raised.

The third alone of a minor chord or the third and fifth may be raised, or the fifth may be lowered.

In the above example, C, E, G is major; C, E $\flat$ , G, minor; C, E $\flat$ , G $\flat$ , part of the dominant of D $\flat$  or B $\flat$ , or supertonic harmony of G $\flat$  or E $\flat$ ; C $\sharp$ , E, G is part of dominant harmony of D or B, or supertonic harmony of F or E.

A musical score for 'The Star-Spangled Banner' on four staves. The top staff (treble clef) has a '1' above it and a '2' below it. The second staff (bass clef) has an 'X' below it. The third staff (treble clef) has a '3' above it. The bottom staff (bass clef) has a '4' above it. The music consists of various notes and rests, including eighth and sixteenth notes, and rests of different lengths. The score is divided into measures by vertical bar lines and sections by double bar lines with repeat dots.

No. 1. C, E $\flat$ , G, as coming from A $\flat$ , dominant of D $\flat$ .

No. 2. C, Eb, G, as coming from F, dominant of Bb.

No. 8. C, E $\flat$ , G, as coming from F, supertonic of E $\flat$ .

No. 4. C, Eb, G, as coming from Db, supertonic of G.

The most important modulations of this kind are obtained from the chromatic alteration of groups of four notes (see page 64).

Commencing with the first group, the third may be lowered alone, or the third and fifth together, or third, fifth and seventh together, or third alone, followed by fifth and seventh together. This process

NY.  
d or the third and  
may be lowered.

major; C, E $\flat$ , G, minor;  
 $\flat$  or B $\flat$ , or supertonic  
of dominant harmony  
or E.



dominant of D $\flat$ .  
dominant of B $\flat$ .  
supertonic of E $\flat$ .  
supertonic of G $\flat$ .

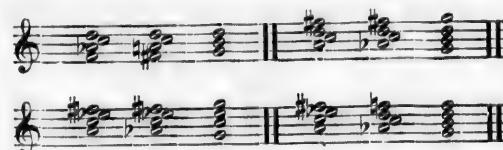
ons of this kind are  
eration of groups of



group, the third may  
and fifth together, or  
, or third alone, fol-  
ether. This process

may be reversed by commencing with the last group  
in the above example.

In the following examples are some more changes of this  
kind. A little study will enable the pupil to construct others.



The last means of modulating is by the enharmonic  
change of chords. A common chord may be changed  
as follows:



No. 1. D $\flat$ , changed to C $\sharp$ , dominant of F $\sharp$ .

No. 2. F $\sharp$  minor, changed to G $\flat$  minor, the minor subdomi-  
nant of D $\flat$ .

An augmented sixth chord may be changed to a dominant, and the reverse.

The image shows four staves of musical notation, each consisting of a treble clef, a key signature, and a staff line. The first staff is labeled '1' above the staff and 'to' below it. The second staff is labeled '2' above the staff and 'to' below it. The third staff is labeled '3' above the staff and 'to' below it. The fourth staff is labeled '4' above the staff and 'to' below it. The notation uses various sharps and flats to represent different chords.

Nos. 1 and 2. Augmented sixth, changed to dominant by enharmonic alteration of the sixth.

Nos. 3 and 4. Augmented sixth, changed to dominant by enharmonic alteration of the first, third and fifth.

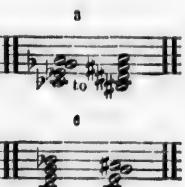
Nos. 5 and 6. Dominant, changed to augmented sixth by enharmonic alteration of the seventh.

Nos. 7 and 8. Dominant, changed to augmented sixth by enharmonic alteration of the first, third and fifth.

The most prolific source of enharmonic modulation is to be found in the diminished seventh chord. This chord, it will be remembered, results from adding the minor ninth to a dominant or supertonic harmony, and omitting the root.

Three groups of sounds form all the diminished seventh chords. Since there are twelve major chords to which the ninth may be added, it follows that each group must be obtained from four roots; also,

NY.  
may be changed to a



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anged to dominant by  
and fifth.  
augmented sixth by  
augmented sixth by  
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welve major chords  
ed, it follows that  
in four roots; also,

since there are six dominants in every scale, it follows that each group must occur twice in every scale as a dominant harmony; also, there being six supertonic chords in every scale, each group must occur twice as a supertonic harmony in every scale. For convenience we will number the groups as follows: That from dominant of C, first; from dominant of F, second; from dominant of G, third.

1st.

2d.

3d.

No. 1 occurs in C, as dominant of C and dominant of its relative minor.

No. 2 occurs in C, as dominant of F and dominant of its relative minor.

No. 3 occurs in C as dominant of G and dominant of its relative minor.

In the following examples are all the resolutions possible to the first group. The pupil can easily write those of the remaining groups.

Root: G .....  
Root: C .....  
a ..... 4 .....  
Root: C ..... Bb .....

No. 1. Written as coming from G; resolved, first, as dominant of C; second, as supertonic harmony of F.

No. 2. Written as coming from E; resolved, first, as dominant of A; second, as supertonic harmony of D.

No. 3. Written as coming from C#; resolved, first, as dominant of F#; second, as supertonic harmony of B.

No. 4. Written as coming from Bb; resolved, first, as dominant of Eb; second, as supertonic harmony of Ab.

One member of a group may be held and the remaining three may be raised a semitone. The result is a dominant or supertonic chord of which the held note is the root.

1 .....  
2 .....  
3 .....  
4 .....

No. 1. F held: the chord becomes, first, dominant of B $\flat$ , or second, supertonic harmony of E $\flat$ .

No. 2. A $\flat$  held; the chord becomes, first, dominant of D $\flat$ ,  
second, supertonic harmony of E $\flat$ .

No. 8. B held; the chord becomes, first, dominant of E, or

No. 8. B held; the chord becomes, first, dominant of E, or second, supertonic harmony of A.

No. 4 D held; the chord becomes, first, dominant of G, or second, supertonic harmony of C.

Lastly, one member may be held, the remaining three raised a semitone, and the note that becomes the seventh, may be changed to an augmented sixth.



The pupil should write out all these changes in all the groups repeatedly. This is the only way to become familiar with them. It would take too much space to write examples of all these various modulations, and would, besides, be of very little real use to the student. The better way is to try, from the rules here given, to construct modulations. A little perseverance will accomplish it. Of course, it is possible in a modulation to mix any or all of these rules together.

The works of Wagner, Raff, Chopin, Gounod, Schumann, and others among the modern writers, will furnish endless examples of ingenious modulations that may be profitably studied. And there is no possible modulation that the rules here given will not explain.

6

## CHAPTER XIV.

**WRITING IN PARTS.**—Music is said to be written in parts, when each voice (or instrument) has an independent melody of its own. This kind of writing belongs properly to the study of counterpoint; but the object of this chapter is to give some idea of the process.

1st. *In two parts.*—The following intervals may be used at any time: Major and minor third, major and minor sixth, augmented fourth, diminished fifth, perfect fifth and octave. The perfect fifth should be avoided, being ineffective. The same remark applies, but not with equal force, to the octave or unison. The octave and unison make the best ending. The minor second may be used as a suspension (it results from the inversion of a suspended seventh, see page 107), and must resolve according to the rules for suspended dissonants (page 108).



IV.

said to be written  
(instrument) has an in-  
this kind of writing  
counterpoint; but  
e some idea of the

ing intervals may  
minor third, major  
, diminished fifth,  
perfect fifth should  
the same remark  
to the octave or  
ake the best end-  
ed as a suspen<sup>sion</sup>  
suspended seventh,  
ording to the rules  
(3).

The major second may be used as a suspension,  
or it may be used as part of a dominant chord; but  
in this case one of the notes should (not necessarily  
the seventh, as in the preceding case) be held from  
the preceding chord.



Seventh held.



Root held.

The augmented second may be used as follows:



It represents the third and ninth of the dominant  
harmony—the ninth, followed by the root.

The diminished third can only occur as a passing  
note.



The augmented fourth may be used at any time,  
but it must resolve—being part of a dominant chord,  
viz., third and seventh, or fifth and minor ninth.



Augmented fourth as third and seventh in dominant of C.



Augmented fourth as fifth and minor ninth in dominant of A.

The diminished fourth may occur as a retardation  
(it is always the retardation of the fifth of a chord).



The root of the second chord is E. The remaining intervals being inversions of those already given, are, of course, subject to the same rules.

It is possible, in two parts, to represent the harmony very effectively, by allowing one or both parts to proceed through the members of the chord.



Bar 1 is all dominant of A.

Bar 2. First beat, tonic of A; the rest of the bar, dominant of F. It is important to remember that when the *harmony changes*, the dissonant notes must resolve.

The augmented sixth chord may be represented as follows:



Or as follows:



These are the only ways it sounds well in two parts.

The perfect fourth can only be used as follows:



viz., as retardation of third of a chord.

Or



viz., one or both parts proceeding through the members of the chord.

Or



in which it is a passing note on the chord of F.

All the dissonances and the perfect fourth may be used as appoggiaturas or as passing notes.

The following rules must be observed for the progression of the parts :

1st. Contrast them as much as possible.

2d. Use contrary motion in preference to any other.

3d. Never use a cross or false relation.

4th. Never proceed by parallel motion to a perfect fifth, except as follows :



(called a horn passage). Of course, this does not apply in a passage like the following, in which the same chord is repeated in another position.



5th. Never proceed to an octave in parallel motion, unless the upper part rises a semitone.

6th. Never write two major thirds in succession, whose roots are less than a perfect fourth apart.

Bad. Good.

Last of all and most important. The composition must be so constructed as to express the harmonic succession as definitely as if it were in four parts.

*In three parts.*—All the preceding remarks and rules hold good; but the following are relaxed, viz., the dominant with seventh, or any of the dominant harmonies can be struck without any preparation; also, the supertonic harmonies. The following table gives the best way of representing all the harmonies in three parts.





No. 1. Common chord. (Of course, all may be inverted.)  
No. 2. Dominant or supertonic harmonies.  
No. 3. Augmented sixth. First, when followed by dominant;  
second, when followed by the tonic.

The perfect cadence may be made as follows in three parts, viz., the tonic, with the root omitted and the fifth doubled. (It is only the position that enables us to recognize this as the chord of F.)



The rules, with regard to proceeding by parallel motion to perfect concords, are relaxed, with regard to the lower and middle or middle and upper parts; but are still binding on the lower and upper parts.

Also, two major thirds may occur (see above) between the lower and middle or middle and upper parts.



No. 1. Fifth in parallel motion between lower and middle parts.

No. 2. Fifth in parallel motion between middle and upper parts.

No. 3. Major third between lower and middle parts.

No. 4. Major third between middle and upper parts.

No. 3 is much better than No. 4.

With regard to four-part writing, nothing new need be said. It is subject to the same rules as three-part, and differs only in its greater variety and copiousness.

The following examples are intended principally to show the manner of using passing notes and appoggiaturas. One of the best ways to study free composition in two parts, is by examining the violin duets of Spohr, Pleyel or Viotti. For three-part writing, the string trios of Beethoven and Mozart.

Of course, in all these compositions there are frequently four and even more parts produced by playing double notes. Also, many parts are merely solos and accompaniments. Still there are plenty of examples of pure two and three-part writings to be found in them. Perhaps the finest specimen of two-part writing in the world, is the concerto for two violins, by Bach.

The three following examples are founded on this harmony.



In two parts:





In these parts:



MONY.

CLARKE'S HARMONY.

141



In four parts:



IONY.

CLARKE'S HARMONY.

143



## CONCLUSION.

The student, who has thoroughly mastered this course, should be prepared for the study of counterpoint, fugue, canon, and the various *forms* of composition. It is difficult to study harmony without a teacher, and almost impossible to study these higher branches without a guide at first.

I have omitted any explanation of the figuring of chords (thorough bass). There are hundreds of works wherein all the information wished for may be obtained on this subject.

For the study of strict counterpoint, Cherubini's is perhaps the best work. For the study of form, no work will suffice. Some good ideas on this subject may be obtained from the works of Dr. Marx. Finally, constant writing is the only way to learn to write well. No amount of genius will make up for the lack of hard work.

ION.

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the study of counter-  
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